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4-12-1

TO: Kristin McClellen

FROM: Bill Merrill

DATE: March 12, 1993

SUBJECT: Summary of Hydraulic-Testing Results Obtained During Previous Investigations Conducted at the Monticello Millsite

The enclosed summary paper documents hydraulic-testing results obtained during previous investigations at the Monticello Millsite. The paper describes the types of tests performed, conditions of the tests, and the procedures used to conduct the tests and to analyze test results. In addition, the paper also discusses the reliability of test results and presents recommendations for additional hydraulic testing to be performed during future site investigations.

If you have any questions, please call me at extension 7712.

c: Rich Zinkl

SUMMARY OF HYDRAULIC-TESTING RESULTS OBTAINED DURING PREVIOUS INVESTIGATIONS CONDUCTED AT THE MONTICELLO MILLSITE
March 12, 1993

Hydraulic testing has been performed during several previous investigations conducted at the Monticello Millsite. The testing performed includes the following:

- Fourteen slug tests in the alluvial aquifer in April and May 1983
- Three pumping tests at well 83-70 completed in the Burro Canyon Aquifer in 1983 and 1984
- Two pumping tests at wells 88-89 (Spring 1988) and 88-90 (Fall 1988) both of which are completed in the alluvial aquifer

Results of these tests are reported in four documents, including 1) Monticello Remedial Action Project Site Analysis Report (December 1984), 2) Final Remedial Investigation/Feasibility Study-Environmental Assessment for the Monticello, Utah, Uranium Mill Tailings Site (January 1990), 3) Environmental Assessment of Remedial Action at the Monticello Uranium Mill Tailings Site, Monticello, Utah (draft version; July 1985), and 4) MRAP Hydrological Characterization - a Summary of Activities - Fiscal Year 1988 (September 1988).

Available information pertaining to these tests has been reviewed and compiled. The information was obtained from the documents listed above and from field records. Additional details regarding the tests were obtained by interviewing individuals who participated in the tests. In many cases, very little information is available in addition to the information presented in the reports. The information obtained for each group of tests is summarized below.

Alluvial Aquifer Slug Tests

Slug tests were performed in fourteen alluvial aquifer wells in Spring 1983. The wells tested were installed in Summer 1982. Slug-testing procedures and results are documented in the Monticello Remedial Action Project Site Analysis Report (December 1984) and the Final Remedial Investigation/Feasibility Study-Environmental Assessment for the Monticello, Utah, Uranium Mill Tailings Site (January 1990).

The tests were performed by removing a slug of water from each well using the air-lifting slug withdrawal method. An airline

and pressure gauge were used to record water-level recovery. Slug test data were analyzed using the Hvorslev method (1951), apparently aided by the computer program SLUGT.EXE. Estimates of hydraulic conductivity resulting from the analysis of slug-test data are summarized below.

	Trial 1		Trial 2		Trial 3	
Well Number	cm/d	ft/d	cm/d	ft/d	cm/d	ft/d
82-02	3.2	0.11				
82-08	28	0.93	46	1.5	67	2.2
82-09	620	20				
82-13	1.5	0.05				
82-19	3.9	0.13	0.24	0.008	2.7	0.09
82-30A	17	0.56	13	0.43		
82-30B	118	3.8	165	5.4	282	9.2
82-30C	164	5.4	104	3.4		
82-31B	3	0.1				
82-45B	10	0.3				
82-51	112	3.7	98	3.2	108	3.6
82-52	390	13	420	14	470	15
82-55	3.9	0.13				
82-58	29	0.95	42	1.4	29	0.96

Several factors need to be considered when assessing the reliability of the slug-test results. These factors include:

1. The method used to monitor and record water-level recovery may not have provided the sensitivity necessary to obtain accurate recovery measurements.

2. The method used to analyze slug-test data (Hvorslev, 1953) is primarily used for analyzing data from partially-penetrating wells completed in a confined aquifer. The unconfined solution of Bouwer and Rice (1976) would be more appropriate for these data.

3. Several errors were made during the analysis of the data. First, the effective radius of the casing rather than the measured casing radius should have been used where water-level recovery occurred within the filter pack. Second, the top of the aquifer should have corresponded to the water-table surface rather than the ground surface.

4. The results cannot be verified because field notes and raw data could not be located.

The problems identified with the procedures used to conduct the tests and to analyze the data suggest that the results should not be used to quantitatively assess hydraulic properties of the alluvial aquifer.

Pumping Tests at Well 83-70 (Burro Canyon Aquifer)

Three separate pumping tests have been conducted at well 83-70 which is located approximately 600 feet downgradient of the millsite. Well 83-70 is completed in the Burro Canyon Aquifer. The first test was performed in August 1983. The remaining two tests were conducted in Summer 1984 (Mark Kautsky, personal communication). The first 1984 test was scheduled to run for at least one week. However, the test was terminated after 71 hours because of problems with a generator (Pete Kearl, personal communication). The second 1984 test was conducted a short time after the first test to achieve the minimum one week test duration. The three tests are summarized separately below.

First Pumping Test at Well 83-70

The first pumping test at well 83-70 is documented in the Monticello Remedial Action Project Site Analysis Report (December 1984). In addition to the information provided in the report, details concerning the test were also obtained from Jeff Price who was present during the test. Original field notes with the test could not be located. A printout of transducer readings was located, but no information is available to correlate the readings with specific wells.

The objective of the test was to assess the potential for hydraulic communication between the Burro Canyon Aquifer and the Dakota Sandstone. Observation wells included wells 83-71 (Kbc), 83-72 (Kd), and 83-73 (lower Kd). All of the observation wells are located within approximately 100 feet of the pumping well. Pressure transducers were installed in the pumping well and in each observation well to monitor the pressure response induced by pumping.

The pumping test was conducted for a period of 51 hours. Purge water was discharged to Montezuma Creek (Jeff Price, personal communication). The apparent discharge point was located approximately 175 feet from the pumping well. The closest observation well to the apparent discharge point was well 83-72 which is located about 90 feet from the creek.

Transmissivity and storativity estimates for the Burro Canyon Aquifer were obtained using data from observation well 83-71 which is located approximately 75 feet from the pumping well. Well 83-71 was completed as an open hole in the Burro Canyon Aquifer with steel surface casing extending from the ground surface into the upper portion of the Dakota Sandstone at a depth of 31 feet. The values estimated for transmissivity and storativity were 296 ft^2/day and 0.013, respectively. These values were calculated using conventional curve-matching

techniques. Similar values of transmissivity (223 ft^2/day) and storativity (0.015) were calculated using the semilog method of pumping test analysis.

No response to pumping was observed in observation well 83-72, completed in the Dakota Sandstone, during the 51-hour test. Well 83-72 is located about 75 feet from the pumping well. The text concludes that these results provide evidence that the Dakota Sandstone forms an effective aquitard, restricting the downward movement of groundwater, in the vicinity of the test.

No errors or problems were identified during review of available information concerning the test. The primary concern regarding the reliability of the results from this pumping test is that the results cannot be verified because field notes and documentation of test analyses cannot be located. In addition, the conclusion that the Dakota Sandstone forms an effective aquitard should be qualified within the limits (duration) of the test.

Second Pumping Test at Well 83-70

The second pumping test conducted at well 83-70 is documented in the Final Remedial Investigation/Feasibility Study-Environmental Assessment for the Monticello, Utah, Uranium Mill Tailings Site (January 1990). In addition to the information contained in the report, details concerning the test were also obtained from Mark Kautsky, Jeff Price, and Pete Kearl. The test was conducted in Summer 1984. The objectives of the test were to assess the hydraulic properties of the Burro Canyon Aquifer and the vertical hydraulic conductivity of the Dakota Sandstone. A minimum duration of one week was planned for the test to allow sufficient time for pressure responses to occur in the Dakota Sandstone.

The test was conducted by pumping groundwater from well 83-70 at a rate of 45 gallons per minute (gpm) for a period of 4,258 minutes (71 hours). As stated earlier, the test was terminated sooner than anticipated because of problems with a generator. Pressure responses induced by pumping were monitored in the pumping well and observation wells 83-71 (Kbc), 83-72 (Kd), and 84-74(Kbc). Pressure transducers were used to monitor responses (Jeff Price, personal communication). Observation wells 83-71, 83-72, and 84-74 are located approximately 90, 75, and 500 feet from the pumping well, respectively. Drawdown-verses-time plots constructed using data from wells 83-71, 83-72, and 84-74 are presented in the remedial investigation/ feasibility study (RI/FS) report.

Transmissivity and storativity estimates for the Burro Canyon Aquifer were obtained using data at observation wells 83-71 and 84-74. Conventional curve matching techniques were used to

estimate aquifer parameters. Estimated transmissivity and storativity values calculated using data obtained at observation well 83-71 are 206 ft^2/day and 0.010, respectively. Estimated transmissivity and storativity values calculated using data obtained at observation well 84-74 are 192 ft^2/day and 3.9×10^{-4}, respectively. The difference in estimated storativity values between the two wells was explained in the RI/FS report by well 83-71 being located in the transition zone between confined and unconfined regions of the Burro Canyon Aquifer, while well 84-74 is located in a confined portion of the aquifer.

The transmissivity and storativity estimates obtained for this test are considered reliable on the basis that the values are comparable to the values obtained from data collected during the first pumping test at this well. However, the results cannot be verified because field notes and raw data could not be located. Testing and analysis procedures cannot be sufficiently reviewed and results verified from the information provided in the report.

The duration of the second test was not considered long enough to allow adequate assessment of the vertical hydraulic conductivity of the Dakota Sandstone.

Third Pumping Test at Well 83-70

The third pumping test conducted at well 83-70 is documented in the Environmental Assessment of Remedial Action at the Monticello Uranium Mill Tailings Site, Monticello, Utah (draft version; July, 1985). In addition to the information contained in the report, details concerning the test were also obtained from Mark Kautsky, Pete Kearl, and Jeff Price. The third test was conducted because the duration of the second test was not considered long enough to allow assessment of the vertical hydraulic conductivity of the Dakota Sandstone.

The test was conducted by pumping groundwater from well 83-70 at an average rate of 47 gpm for a period of 211 hours. Wells 83-71(Kbc), 83-72 (Kd), 83-73 (lower Kd), 84-74 (Kbc), and 84-75 (Kbc) located within 1100 feet of the pumping well were used as observation wells. Pressure transducers were installed in the pumping well and observation wells to monitor pressure responses induced by pumping (Jeff Price, personal communication).

Estimated transmissivity and storativity values reported for this test are comparable to the estimates reported for the two previous tests. Estimates of transmissivity and storativity for the Burro Canyon Aquifer computed using observation well data obtained during this test range from 188 to 220 ft^2/day and 4.39×10^{-4} to .014, respectively. Again, higher storativity values are associated with observation wells located in the

transition zone between the confined and unconfined regions of the aquifer.

The vertical hydraulic conductivity of the Dakota Sandstone was assessed by evaluating test results obtained at observation well 83-72. No water-level response was recorded at this well during the previous two pumping tests. However, a drawdown of 0.2 feet was recorded at well 83-72 after 600 minutes of pumping during the third pumping test. The ratio method described by Neuman and Witherspoon (1972) and the laboratory-determined specific storage of the Dakota Sandstone (3.91×10^{-6} ft^{-1}) were used to calculate a vertical hydraulic conductivity of 4.14×10^{-5} ft/day for the Dakota Sandstone. A vertical flow rate through the Dakota Sandstone in the vicinity of well 83-72 was calculated to be 3.2×10^{-4} ft/day using Darcy's Law and static water levels in two adjacent wells (83-72 and 83-73) and a porosity of 0.09, determined on the basis of laboratory analysis of rock core from well 83-72.

The radial position of the observation wells relative to the pumping well permitted the anisotropy of the aquifer to be analyzed using the method described by Hantush (1966). Transmissivity was determined to be 222 ft^2/day along the major axis of anisotropy (S 15° E) and 176 $ft^{2/}$/day along the minor axis of anisotropy (N 75° E). The anisotropy of the aquifer is considered minor because calculations demonstrate discharges per unit width along the major axis (0.3 to 1.1 ft^2/day) and minor axis (0.7 to 1.3 ft^2/day) of anisotropy are similar.

The transmissivity and storativity estimates computed for this test are considered reliable on the basis that the values are comparable to the values computed for the previous two pumping tests. However, the results cannot be verified because field notes and raw data could not be located. Testing and analysis procedures cannot be sufficiently reviewed and results verified from the information provided in the report.

The validity of the reported vertical flow rate through the Dakota Sandstone is questionable. The wells used to assess the hydraulic gradient across the Dakota Sandstone (Wells 83-72 and 83-73) will not yield an accurate assessment of the hydraulic gradient. Well 83-72 extends into the upper Dakota Sandstone, and well 83-73 extends into the lower Dakota Sandstone. Both wells contain surface casing from the ground surface to the alluvium/bedrock contact at a depth of approximately 30 ft. Below this depth, the wells consist of uncased open holes. Therefore, water levels in well 83-73 are influenced by any water-bearing units within the Dakota Sandstone and not solely representative of water levels in the lower portion of the unit.

Pumping Tests at Wells 88-89 and 88-90 (Alluvial Aquifer)

Alluvial aquifer pumping tests were performed at wells 88-89 and 88-90 in 1988. The objectives of the tests were to assess hydraulic properties of the alluvial aquifer upgradient of the site and in the vicinity of the East Tailings Pile. A third pumping test was scheduled to be performed at well 88-88, located downgradient of the site on the Sommerville property; however, the test was not conducted because the pumping well could not be sufficiently developed prior to testing (Mark Kautsky, personal communication).

Results of the two pumping tests are presented in Appendix F (MRAP Hydrological Characterization, a Summary of Activities, Fiscal-Year 1988) of the Compendium of Previous Characterizations for the Millsite and Peripheral Properties (May 1991). Additional information for these tests was obtained from copies of field notes and through personal communications with Mark Kautsky and Jeff Price, both of whom were present during testing.

Pumping Test at Well 88-90

The pumping test at well 88-90, located upgradient of the site near the Bureau of Land Management (BLM) compound, was conducted in September 1988. The observation wells used for the test included wells 86-78, 86-79, and 88-81. The distance from the pumping well to each observation well is not specified in the report or in the field notes. Drawdown in the pumping well and in each observation well was monitored using pressure transducers connected to a scanning recorder. Manual water-level measurements, recorded in field notes, were periodically obtained in each of the observation wells. Field notes indicate that the test was conducted for a period of approximately 24 hours. Field notes also indicate that pumping rates during the test fluctuated from 11.5 to 17.6 gpm. The time-weighted average pumping rate computed for the test was 12.9 gpm. Water generated during pumping was discharged into Montezuma Creek (Jeff Price, personal communication). Montezuma Creek is located approximately 150 ft from the pumping well.

Estimates of transmissivity and storativity were obtained from observation well data using conventional curve-matching techniques. Estimates of transmissivity ranged from 4,168 to 7,046 ft^2/day. Storativity estimates ranged from 0.20 to 0.35. The transmissivity estimates presented are much higher than anticipated given the nature of the sediments, clayey sand, identified within the completion interval. The high values are most likely a result of erroneous pressure transduce measurements (Mark Kautsky, personal communication). The scanning recorder's

maintenance due date had apparently lapsed, and the field measurements recorded were highly erratic.

Reported results for this test are not considered reliable because it is suspected that the device used to record pressure transducer measurements was not functioning properly. However, no other major problems were identified with this test, and therefore, the results should be re-analyzed using the manual water-level measurements recorded in the field notes. During re-analysis, consideration should be given to potential boundary effects due to the close proximity of Montezuma Creek.

Pumping Test at Well 88-89

The pumping test at well 88-89, located at the East Tailing Pile, was conducted in April 1988. The location for the pumping well was selected on the basis of seismic survey results. The seismic survey was performed to obtain profiles of the bedrock surface along six transects across the East Tailings Pile. The well was located in an area clear of construction activities and where the seismic profile indicated the greatest alluvial thickness.

Observation wells 88-82, 88-83, and 88-84 were installed within approximately 13 feet of the pumping well. Drawdown in each observation well was monitored using pressure transducers connected to a scanning recorder. A pressure transducer was not installed in the pumping well, because the transducer could not be installed past the pump hose and power cable. Manual water-level measurements were periodically taken in each of the three observation wells during the test. Water levels were not monitored in the pumping well. The pumping rate ranged from 10.2 to 13.2 gpm during the test. The time-weighted average flow rate was 11 gpm.

Transmissivity and storativity values were estimated using conventional curve-matching techniques and manual measurements of drawdown for each of the three observation wells. Pressure transducer readings were not used to estimate hydraulic parameters; apparently, the transducer readings were considered unreliable. Resulting transmissivity estimates ranged from 374 to 601 ft^2/day. Storativity estimates ranged from 0.054 to 0.36.

According to field notes, the following problems occurred during the test:

1. The test was stopped 5 minutes after pumping began because the pump was continually cycling on and off. The test was re-started 25 minutes later; however, the water level in the closest observation well (well 88-82) had not fully recovered when the test was re-started. The

water level in well 88-82 was 0.9 ft below static when pumping resumed.

2. The pumping rate was periodically interrupted during the first hour of the test. The interruptions occurred because the pump continued to frequently cycled on and off.

3. Approximately 5 minutes after testing began, the transducer cable in well 88-82 was accidently cut and a new transducer was installed.

4. Approximately 50 minutes into the test, the pump was lowered one foot, because the water level had apparently been lowered to the level of the pump intake. It was estimated that the water level had been maintained at the pump-intake level for approximately 40 minutes.

These problems probably did not adversely affect results of the pumping test analysis, provided data obtained from the first hour of the test were ignored. However, the results should be verified by re-analyzing the data tabulated in the field notes.

Conclusions and Recommendations

The following conclusions are made concerning the reliability of hydraulic data obtained during previous investigations at the Monticello Millsite:

- Results of the 14 slug tests performed in 1983 are considered questionable and should not be used to describe hydraulic parameters of the alluvial aquifer.

- Transmissivity and storativity estimates for the Burro Canyon Aquifer obtained from data collected during the three pumping tests at well 83-70 are considered reliable on the basis that results from the tests are comparable. However, it should be noted that the results cannot be verified because field notes and raw data cannot be located.

- The vertical flow rate, calculated using data obtained during the second pumping test at well 83-70, is considered questionable and should not be used to describe vertical flow through the Dakota Sandstone.

- Results of the aquifer test performed at well 88-89 are not considered reliable and should not be used to describe hydraulic parameters of the alluvial aquifer.

- Results of the aquifer test performed at well 88-90 are considered reliable but should be verified through re-analysis of hand measurements.

Based on these conclusions, the following actions are recommended:

- Ten to fifteen slug tests should be performed in existing alluvial wells to accurately assess hydraulic parameters of the alluvial aquifer. Approximately half of these tests should be conducted at wells located within the boundaries of the millsite. The other half should be performed at wells selected in upgradient and downgradient areas.

- Pumping test data obtained at alluvial wells 88-89 and 88-90 should be re-analyzed using manual measurements documented in field notes. Results of these analyses should be used to assess if additional testing is necessary at these sites.

- A pumping test should be considered at alluvial well 88-88, located downgradient of the millsite. Additional well development should be performed at well 88-88 before testing.

- No further testing should be performed at well 83-70. Well 83-71 should be abandoned to prevent potential further downward migration of shallow water to the Burro Canyon Aquifer.

- Hydraulic gradients between adjacent hydrologic units should be assessed by installing closely-spaced piezometers at several locations. Specific locations should be selected after further hydrologic interpretations are completed.

- Additional pumping tests should be considered for the Burro Canyon Aquifer. The need and location of these tests should be assessed after further hydrologic interpretations are completed.

4-12-2

OU III AR 569 h

TO: Kristin McClellen

FROM: Bill Merrill

DATE: April 2, 1993

SUBJECT: Re-analysis of 1988 Pumping-Test Data

Data obtained during pumping tests conducted at alluvial wells 88-89 and 88-90 have been re-analyzed in accordance with the recommendations presented in the March 12, 1993 summary paper entitled "Summary of Hydraulic-Testing Results Obtained During Previous Investigations Conducted at the Monticello Millsite". Re-analysis of the data was performed to allow verification of the results previously reported for these tests. Documentation of the original analyses could not be located. As described below, results of the re-analysis of data generally confirm the previously reported results.

Re-analysis of the data was performed by analyzing water-level measurements taken at each observation well during testing. The observation wells associated with the test conducted at well 88-89 included wells 88-82, 88-83, and 88-84. Wells 86-78, 86-79, and 88-81 served as observation wells for the test conducted at well 88-90. The data were analyzed using the Neuman pumping-test analysis method. The Neuman method was selected because plots of the data indicate that water-level drawdowns in the observation wells exhibited delayed yield effects during the test, and the Neuman method accounts for delayed yield. The interactive computer program Aquix-4s™ was used to prepare a plot of drawdown verses time for each observation well and to perform computations associated with the Neuman method. Results of the analyses performed for the pumping test conducted at well 88-89 are presented in Plates 1 through 3. Results of the analyses performed for the pumping test conducted at well 88-90 are presented in Plates 4 through 6.

As shown in Plates 1 through 6, the Neuman method provides estimates of storage coefficient, transmissivity, specific yield, and anisotropy. However, transmissivity is generally considered the only aquifer parameter for which reliable estimates can be obtained from pumping tests conducted in unconfined aquifers. Values for the remaining parameters listed in the plates should be considered rough approximations.

Comparison of previously reported transmissivity estimates with estimates resulting from the re-analysis of pumping-test data is presented in Table 1. As shown, transmissivity estimates resulting from the re-analysis of data generally confirm the previously reported values. For each pumping test, best-estimate transmissivities were calculated as arithmetic means of the values reported for each set of results. Best-estimate

Table 1. Comparison of Transmissivity Estimates

Pumping Well No.	Observation Well No.	Re-analysis Transmissivity (square feet/day)	Previously Reported Transmissivity (square feet/day)
88-89	88-82	329	385
	88-83	496	311
	88-84	368	500
88-90	86-78	6,460	5,866
	86-79	3,584	3,470
	88-81	4,354	5,133

transmissivity values for the re-analysis and previously reported estimates for the test conducted at well 88-89 are 398 and 399 square feet per day (ft^2/day),respectively. Best-estimate transmissivity values for the re-analysis and previously reported estimates for the test conducted at well 88-90 are 4,799 and 4,823 ft^2/day, respectively.

If you have any questions, please call me at extension 7712.

c: Rich Zinkl

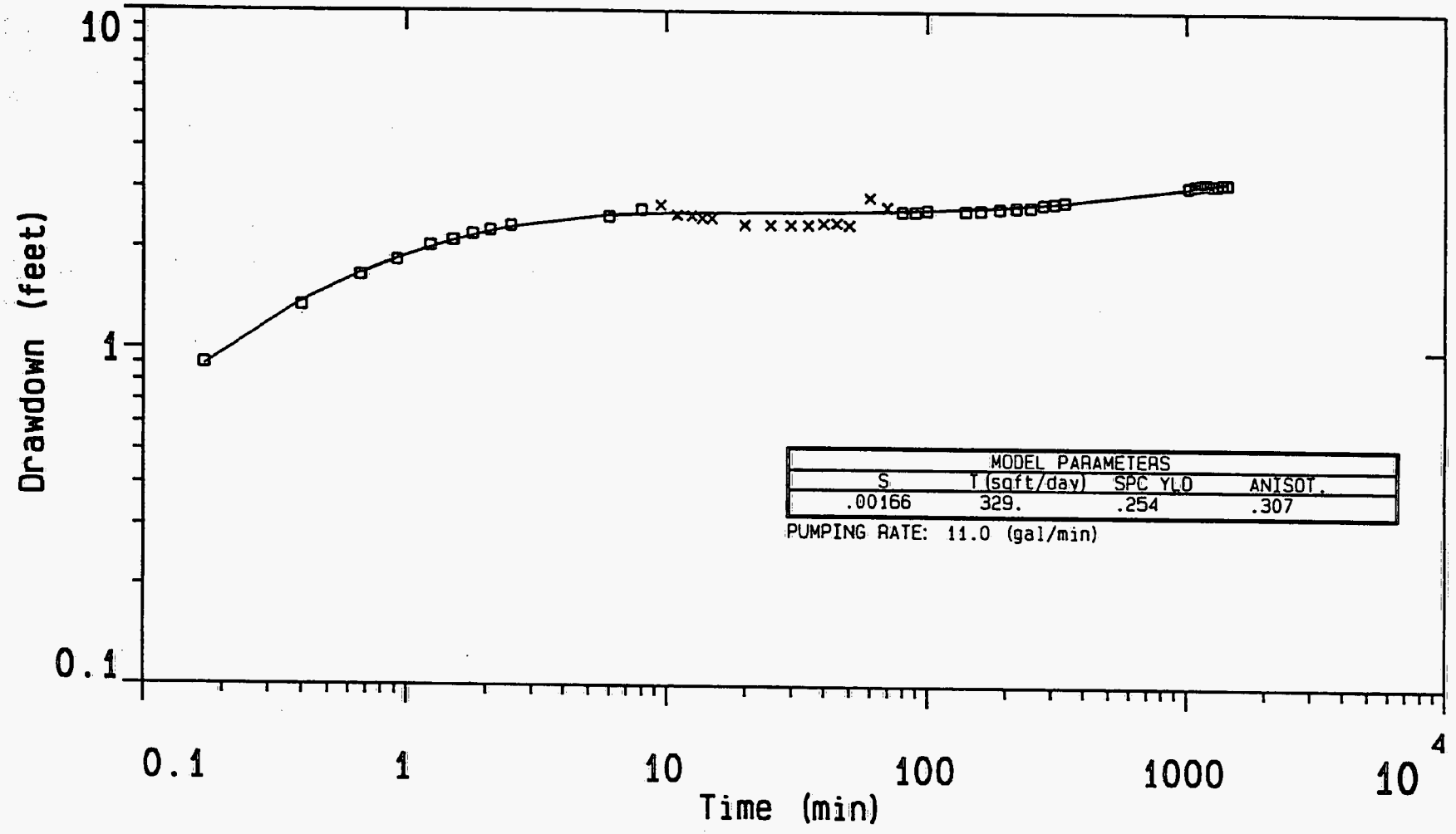

Plate: 1

for: U.S. DEPT. OF ENERGY	Pumping Test Analysis
by: Geotech Inc. | Grand Junction	Monticello Millsite
Aquifer: Unconfined Thickness: 10.2 Depth: 33.5 feet Screen: Base: 10.2 Top: 2.25 feet Distance: 4.00 feet Pumping well: 88-89	Monticello, UT. Date: 31-MAR-93 Well No.: 88-82

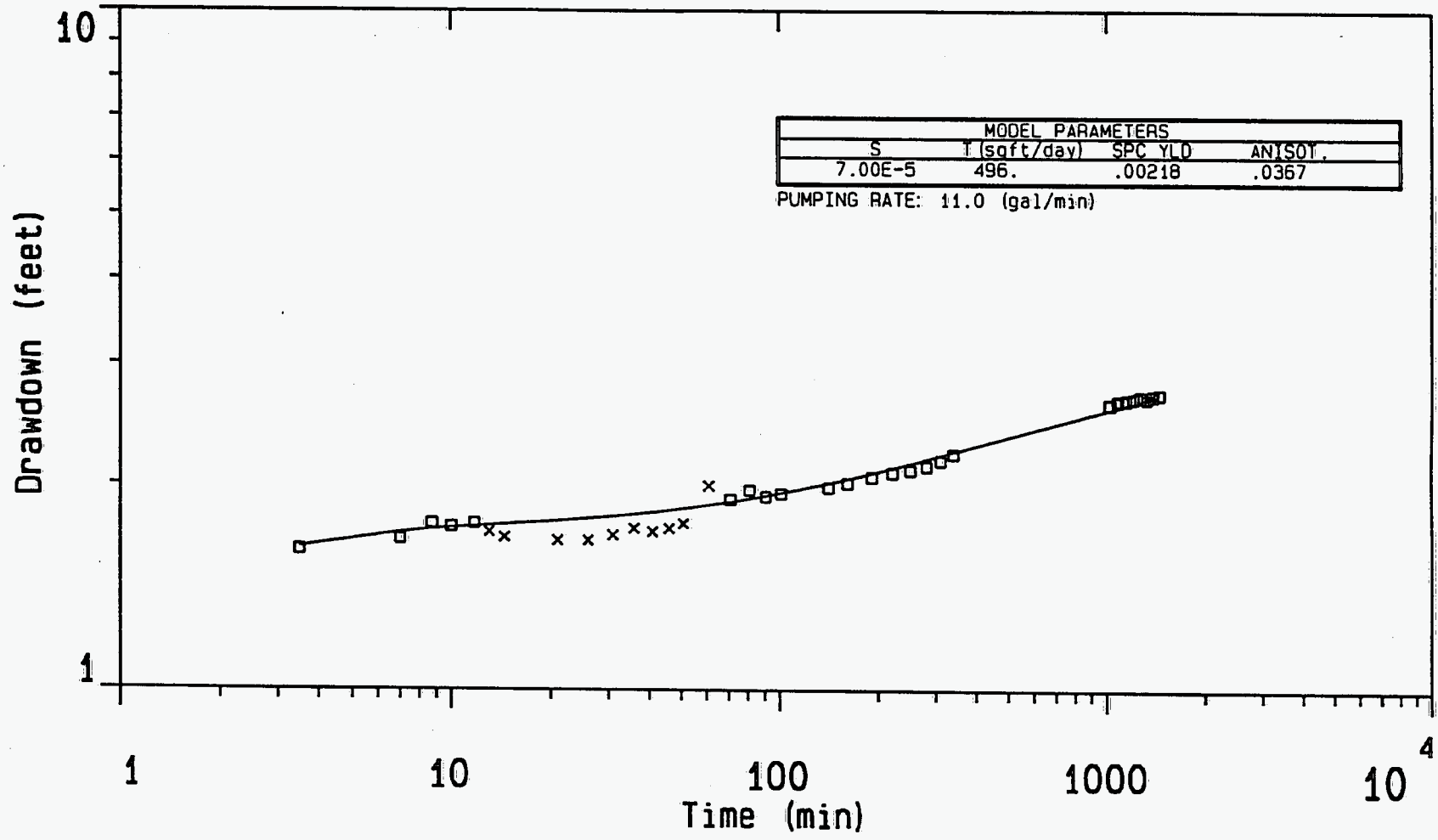

Plate: 2

for: U.S. DEPT. OF ENERGY	Pumping Test Analysis
by: Geotech Inc. | Grand Junction	Monticello Millsite
Aquifer: Unconfined	Monticello, UT.
Thickness: 8.45 Depth: 32.0 feet	
Screen: Base: 8.45 Top: 1.95 feet	
Distance: 13.3 feet Pumping well: 88-89	Date: 31-MAR-93 | Well No.: 88-83

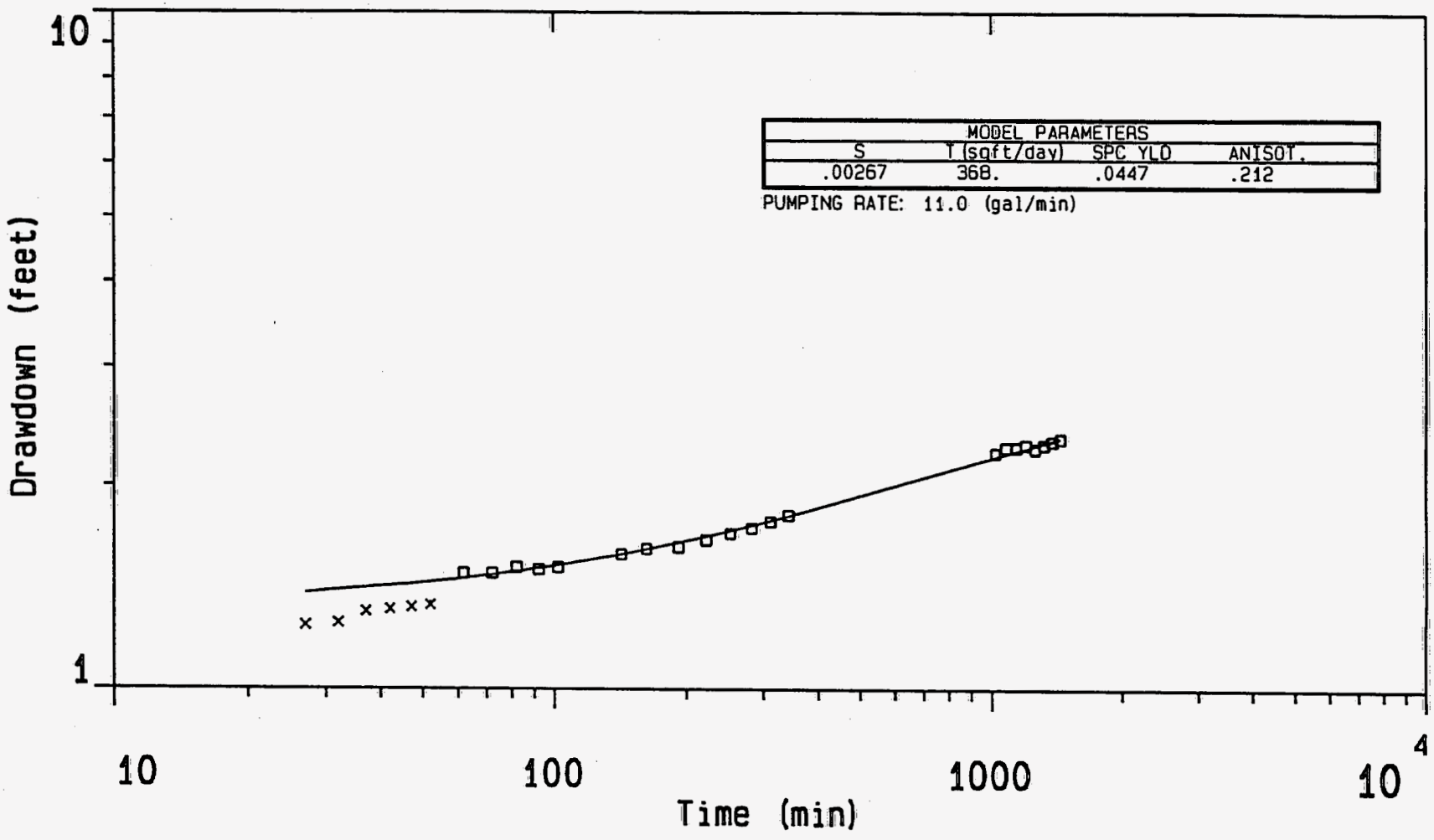

Plate: 3

for: U.S. DEPT. OF ENERGY	Pumping Test Analysis
by: Geotech Inc. | Grand Junction	Monticello Millsite
Aquifer: Unconfined Thickness: 9.90 Depth: 32.0 feet Screen: Base: 9.90 Top: 2.90 feet Distance: 13.0 feet Pumping well: 88-89	Monticello, UT.
	Date: 31-MAR-93 | Well No.: 88-84

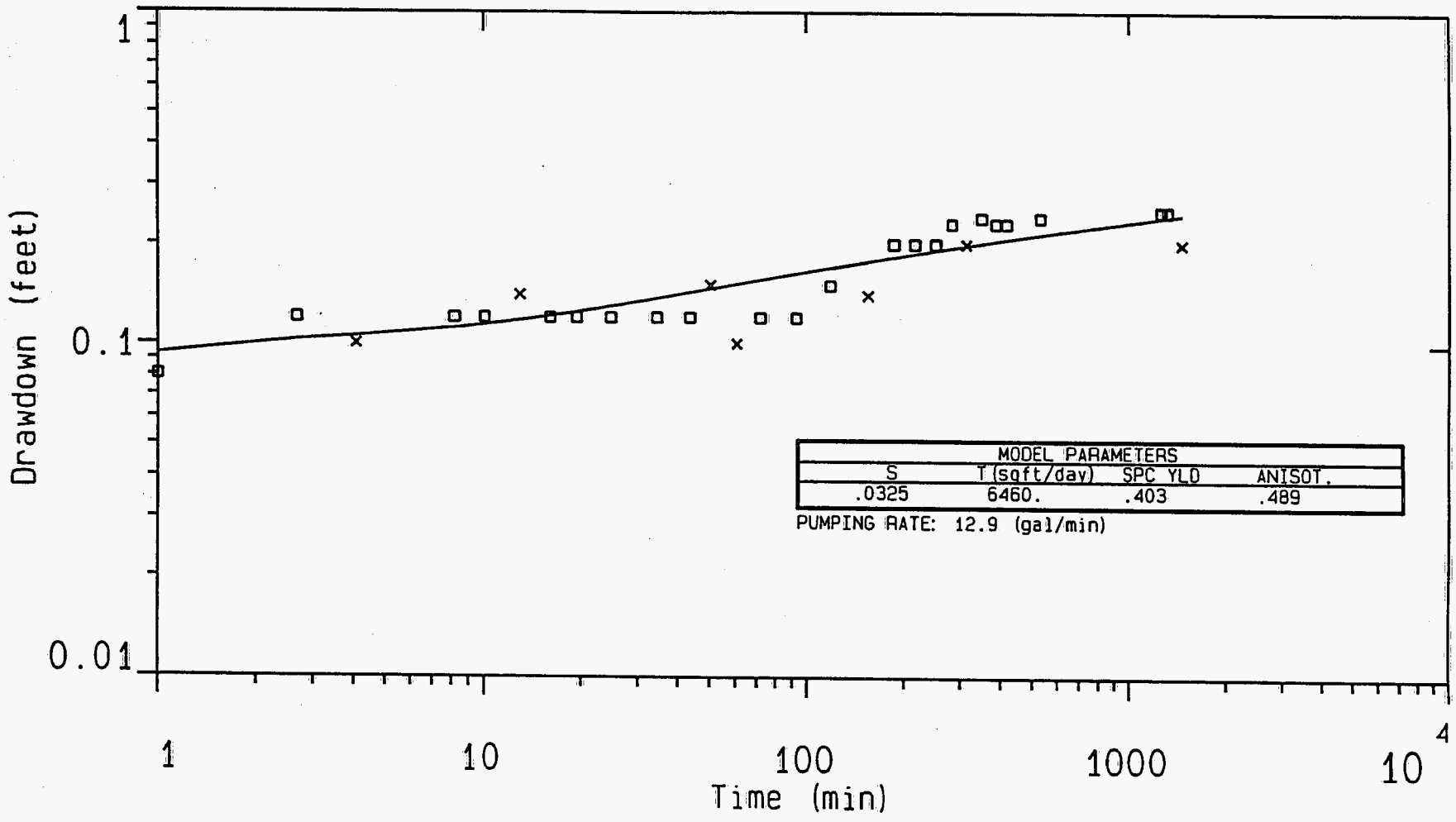

Plate: 4

for: U.S. DEPT OF ENERGY	Pumping Test Analysis
by: Geotech Inc. | Grand Junction	Monticello Millsite
Aquifer: Unconfined	Monticello, UT
Thickness: 8.45 Depth: 15.0 feet	
Screen: Base: 8.45 Top: 3.00 feet	
Distance: 4.50 feet Pumping well: 88-90	Date: 30-Mar-93 | Well No.: 86-78

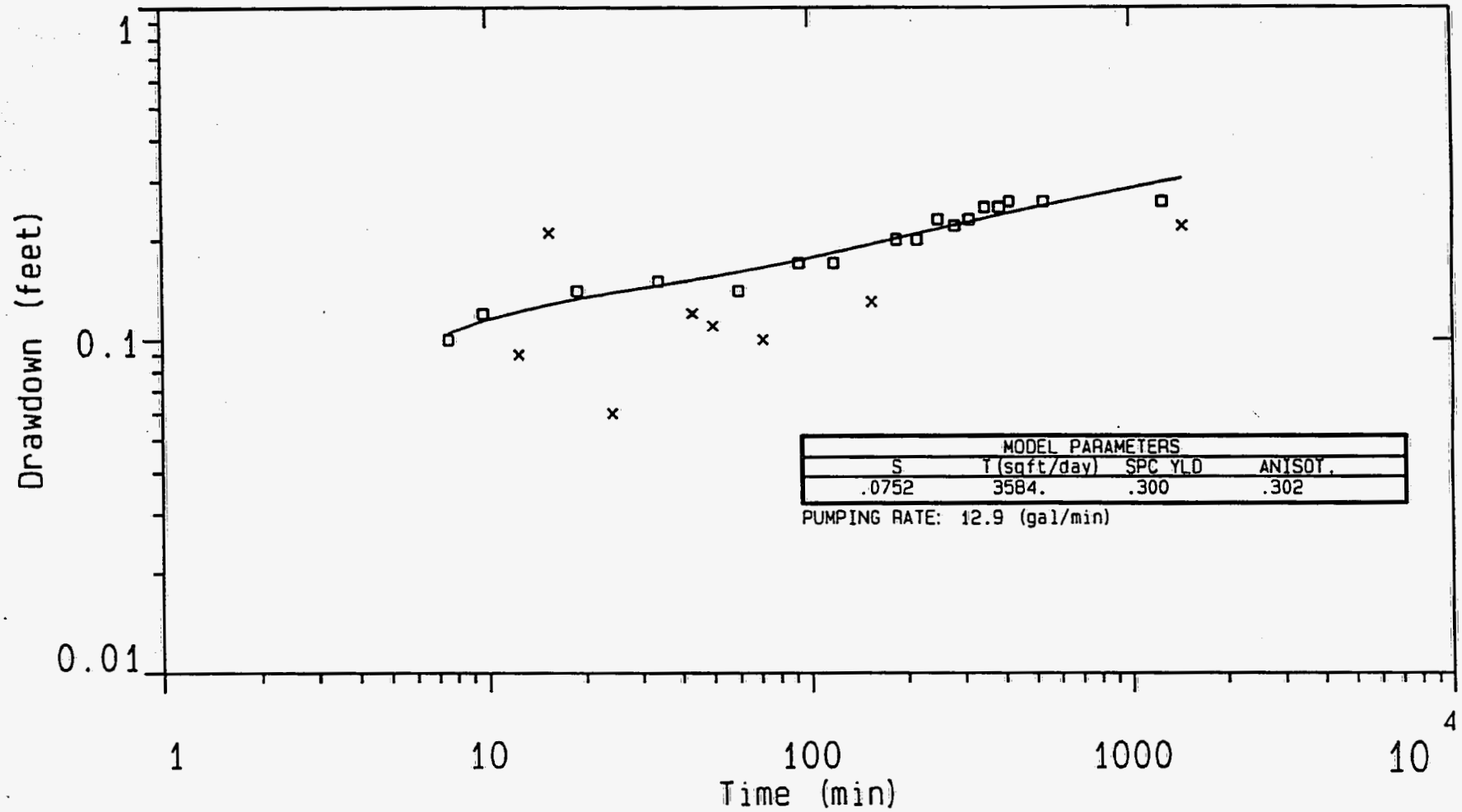

Plate: 5

for: U.S. DEPT OF ENERGY	Pumping Test Analysis
by: Geotech Inc. | Grand Junction	Monticello Millsite
Aquifer: Unconfined Thickness: 9.25 Depth: 15.0 feet Screen: Base: 9.25 Top: 3.25 feet Distance: 11.0 feet Pumping well: 88-90	Monticello, UT
	Date: 30-Mar-93 | Well No.: 86-79

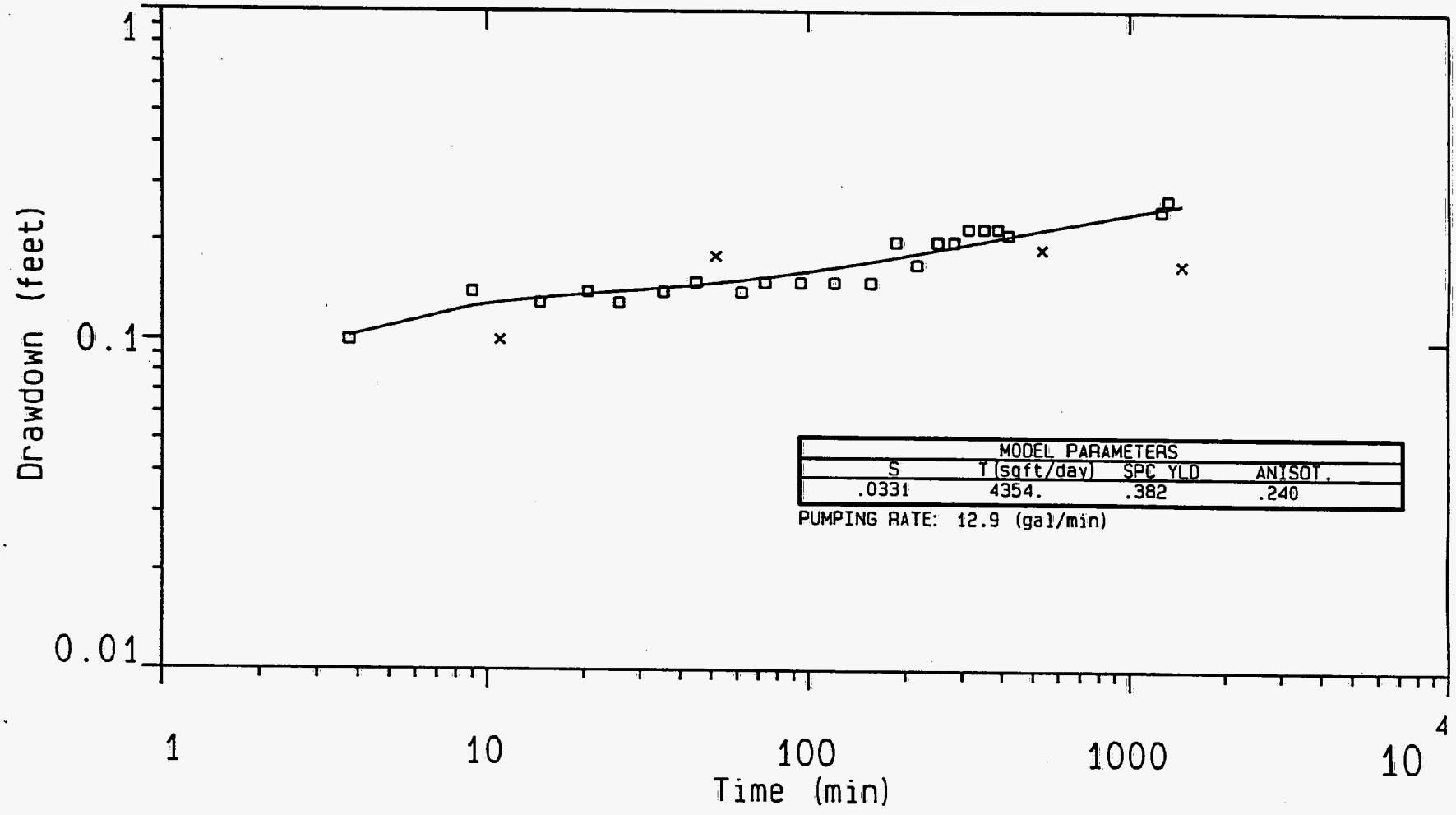

Plate: 6

for: U.S. DEPT OF ENERGY	Pumping Test Analysis
by: Geotech Inc. | Grand Junction	Monticello Millsite
Aquifer: Unconfined	Monticello, UT
Thickness: 10.0 Depth: 17.4 feet	
Screen: Base: 9.00 Top: 2.00 feet	
Distance: 9.70 feet Pumping well: 88-90	Date: 30-Mar-93 | Well No.: 88-81